79.95

Wiz™

The OS9 Level II Terminal Program

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Disclaimer

The Author does not guarantee the suitability, sufficiency or accuracy of Wiz. There are no warranties, expressed or implied, including those of merchantability and fitness for a particular application, concerning the software or other materials delivered herein.

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1.0 INTRODUCTION

Wiz is a program which allows the Color Computer running OS9 Level 2 to function as a "Smart Terminal" to a Host Computer. It makes extensive use of the windowing capability of the operating system.

1.1 Requirements

Requirements:

A 512k Color Computer 3
A rs-232 Pak or other s6551 ACIA hardware
OS9/Basic09 OS9 level II version 2.0

If you use the rs232 pak, You must also have a Radio Shack Multi-Pak adapter.

The rs-232 pak must be in slot 1. If you have an old style Multi-pak and are using a CoCo-3 you should have the PAL upgrade.

Wiz does not use "capture buffers" for downloading or saving data from the host. Instead it uses the X-OFF/X-ON technique to cause the host to pause while it writes to disk, prints or is in the menu. Almost every host accommodates this "handshake" technique. Some cannot handle X-OFF while you are logging on, (usually a limitation of a communications "node" rather than a host), but this is not a problem as Wiz does not use x-off unless it's driver (WizAcia) buffer is nearly full or you are actually downloading to disk or printing on-line.

If you want to simulate a capture buffer on a CoCo 3, use a ramdisk. Set the "D" option from the menu with a filename of: /ramdisk/filename. You can leave this on the entire session, even while uploading or using xmodem.

There is, however, buffering of the most recent 2048 incoming characters, and the WizAcia ACIA driver also contains a 256 byte buffer. Both are automatically rotational.

See the section titled technical discussion for,further information.

Wiz features Include:

A dedicated DEVICE DRIVER which is optimized for the CoCo when it is a Terminal, rather than talking to a terminal.

INTERRUPT DRIVEN: Wiz operates at up to 19.2k baud .

PRINT THROUGH: you can print files or messages from the host while on-line.

CONFERENCE MODE. A one-line device window at the bottom of the screen is used for line composition while the main screen is updated by the Host.

RETRO PRINT: just hit <ALT-P> and the last 2048 characters are printed.

RETRO SCREEN: <ALT-^> causes the last 2048 received characters to be redisplayed.

RETRO SNAP: <ALT-S> causes the last 2048 characters received to be saved to a disk file, named sequentially.

Zero RETRO buffer: <ALT-Z> nulls the buffer.

MODEM RESET: <ALT-X> will reset your modem if it is AT command Compatible.

DISK DOWNLOAD (TEXT) you can store everything to disk while on-line - NO LIMITS to filesize, no lost characters.

AUTOLOGGING: Uses the Tandy Model 100 system.

DISK UPLOAD (TEXT) Allows you to send files to a host while on line.

on-line HELP, holding down ALT while you tap H will bring up the Help screens.

CHANGE DATA DIRECTORY: from the Wiz main menu or from your autolog file.

The Wiz uses DD, the OS9 default device. It always looks in /dd/comm for it's autolog files.

COLORS: Wiz will change the screen colors at any time.

FONTS: Works like the color changes, but is automatic.

BOLDFACE and PROPORTIONAL: OS9 does it, Wiz supports it.

XMODEM: It's built in. Will send or receive any size/type file.

KERMIT: Not built in like xmodem, but can be run from a separate open window while Wiz is in the wait state.

X-ON/X-OFF: will work with hosts that "dribble", or continue to send a few characters after they receive the x-off.

BREAK KEY: User defineable. <ALT-BREAK> sends TRUE LINE BREAK

MACROS: Two 80 character macros can be composed and sent while you are on-line. Good for use on conferences.

CONTROL BYTES: Can be sent from the keyboard. (ALL).

USAGE LOG: Keeps track of your on-line time for each host.

7 OR 8 BIT: User defineable. Auto Changeover for Xmodem.

PARITY: Mark,Space,odd,even,none.

STOP BITS: One or two.

SHELL:Interface to the OS9 shell while on-line.

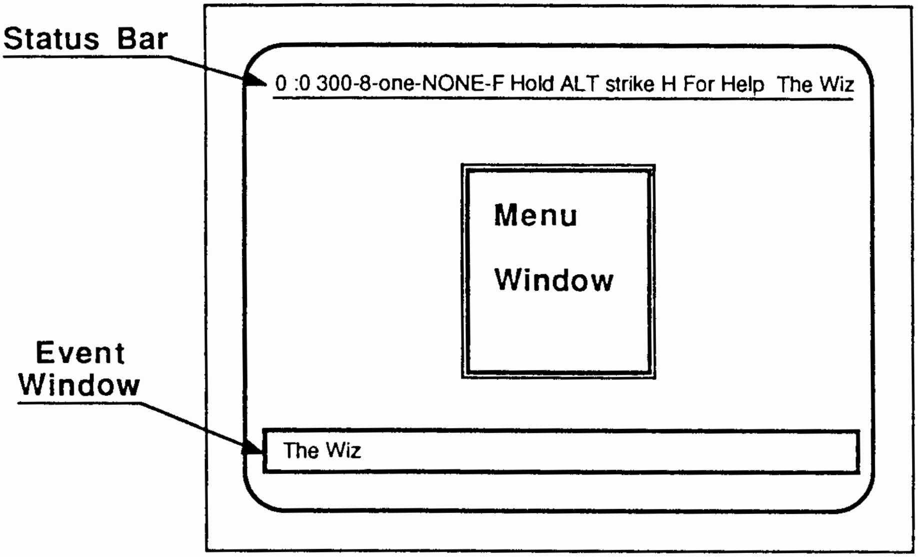
WAIT STATE: The Wiz will go to sleep instantly from the on-line state.

VT52 Emulation

Wiz allows the user to upload and download files to the host, as well as normal interactive terminal operation. A line of nearly any length can be received without loss of characters. Disk lines may be 255 characters long on download and upload. Longer lines can be downloaded using the Wiz snapshot capability.

1.3 The Wiz Windows

Wiz uses seven windows, three device windows, three overlay windows, and a pseudo window. The main on-line display is divided into three parts, from top to bottom: the status bar, the 22 line active screen, and the event window. The status bar is one line as is the event window. The status bar is the static pseudo window.



```
0 :0 300-8-one-NONE-F Hold ALT strike H For Help  The Wiz
```

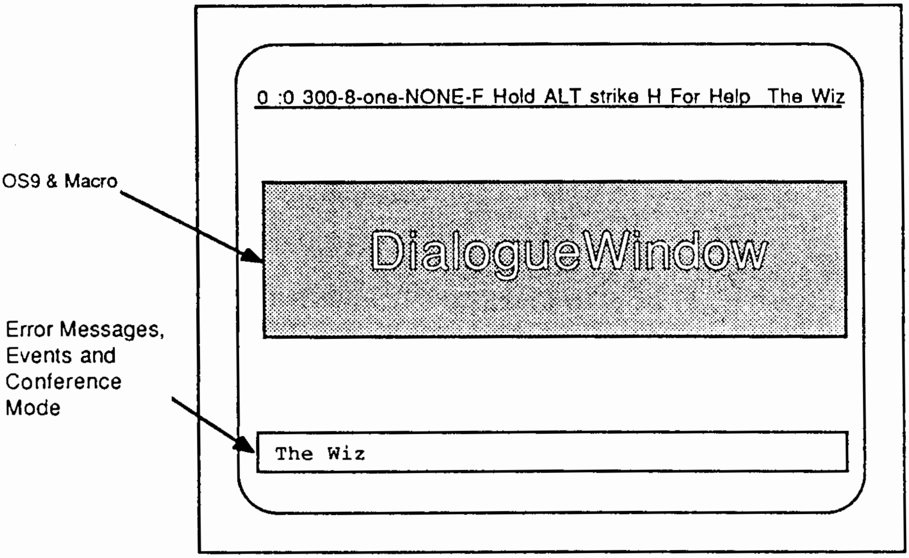
```
The Wiz
```

The status bar appears whenever you are on-line. Autolog also uses a different status bar that appears only during the autolog process. The status bar shows your elapsed time, (not refreshed while on-line, except for certain ALT key operations), the number of bits/word, stop bits, parity, baud rate, and if full or half duplex has been selected. It will also show you when the printer is active, and the name of any file that you are downloading to.

Between the status bar and event window there are 22 lines which are used by the Wiz as its main on-line screen.In the full duplex mode, the main screen displays only characters received from the host. The reason you can see yourself typing here, in the full duplex mode, is because the host is echoing your characters, or in the half duplex mode, the Wiz is.

The event window displays snapshot file names, last autolog entries, and is used by xmodem. You also compose your lines here when in the conference mode. Keep your eye out for error messages here also.

The Wiz Dialogue Window

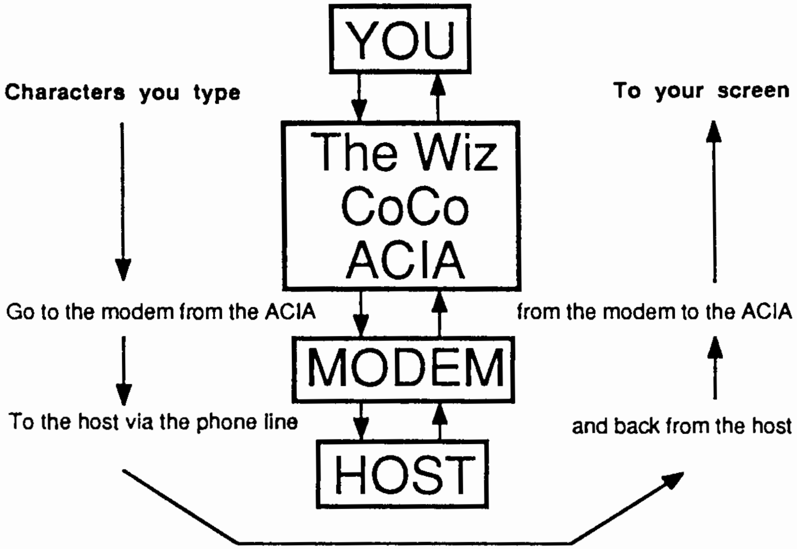

0 :0 300-8-one-NONE-F Hold ALT strike H For Help The Wiz
OS9 & Macro
DialogueWindow
Error Messages, Events and Conference Mode
The Wiz

The dialogue window is where you edit your new macros and run shell commands.

There is one more window that is not illustrated here. It is an overlay a little smaller than the dialogue window. It will appear whenever Wiz needs supplemental information. An example is when you ask Wiz to download to a file that already exists.

The first step, which you are doing now, is to read this manual. The Wiz is somewhat different than many other terminal programs, and is not the same as operating an actual terminal. It is best, perhaps, to think of Wiz as a User Interface, rather than a terminal program.The Wiz, combined with the exciting new power of the OS-9 level II windows, and OS-9, allow a great deal of speed and flexibility in your telecomputing. Even "Old Hands" may learn something new here.

There are three parts to any Computer System: Software, (the Wiz), the Hardware, and the operator, (you). To get all these things working together, you must approach things in a step-by step manner. Telecomputing is a long chain of things that must work together. Here is a simple block diagram:


YOU
Characters you type
To your screen
The Wiz
CoCo
ACIA
Go to the modem from the ACIA
from the modem to the ACIA
MODEM
To the host via the phone line
and back from the host
HOST

If any link in this chain doesn't function you can type away, and nothing will appear on your screen. Later, you will see how you can "short circuit" the characters, at any point in the chain, to find out what is working and what is not. But for now, lets see how to get started with the main parts.

The primary function of Wiz is to allow you to type characters on your keyboard which are sent to a host computer, and to put any characters returning from the host on your CoCo screen.

When you use an ordinary telephone, you literally talk and listen at the same time. If two people, on opposite ends of the line, talk at the same time, they can both be heard by each other at the same time. We take this minor miracle of the telephone for granted. We are so used to it, and OUR ability to talk and listen at the same time, that many of us are shocked the first time we use a CB radio to discover that we must first talk, then listen. However, the telephone is the exception, the CB radio is far more usual in the one-way world of electronic circuits.

A phone line is also a serial device. Things happen on it one thing after another in time, just like the letters and words in this sentence.

Computers never do more than one thing at once, but they run so fast, that they can appear to. One reason, is because computers do things in parallel. It's like you could read each word without looking at each letter. (ah ha! we also do things pretty fast, with practice!)

So phone lines are serial, but both ways at once, and computers are parallel, but one thing at a time. Then how do we get a computer to talk over a phone line to another computer? We use a combination of two very special pieces of hardware, an ACIA and a MODEM.

ACIA is shorthand for Asynchronous Communication Interface Adapter. Modem is short for Modulator-Demodulator. The S6551 acia used in 6809 computers provides both serial to parallel conversion, and does two way communications like two people talking. (this is also called Full Duplex). The modem converts "bits" onto tones which are similar to a person talking, (very fast), and keeps outgoing "bits" sorted from incoming "bits".

Why is all this important? Since there are so many links in the chain, over the years people have built in to each link the ability to "short circuit" the loop, and you must know something about these short circuits to set up your hardware and better understand telecomputing.

> Read your modem manual. Your modem probably has "analog loop-back" and "digital loop-back" modes. These are two kinds of short circuits. Many modems default automatically to digital loop back when they are not connected to another modem, or are in the "command mode". Analog loop backs are for testing telephone lines, but if your modem has a digital loop back, (also called command echo), that's very handy for checking things out and you want to enable it, BUT only if it goes out of loop-back when it is "on-line". Many Modems also have a special switch for turning on the signals CD and TR, and for ignoring DTR. Try various settings for these switches.
>
> When you bring up the Wiz, in full duplex, you should be able to type "against your modem", and see your characters bounce back to the screen. The modem is short circuiting the diagram on page 6. This test shows that The Wiz, your computer, your acia, and your cable is hooked up and working correctly. Note that if you have The Wiz in the HALF duplex mode, it also short circuits the loop, and you see each character twice! See Page 22

Since you are using a real modem you should not need any special cables or "jumpers". A straight one to one rs-232 cable is the type you should use. If you have this type of cable, and have problems with control signals, change the cable LAST, only after you have tried all the various dip switch settings that your modem is capable of.

The Wiz itself has no knowledge of the port hardware. WizAcia is designed to operate with an S6551 ACIA. Various hardware add-ons to the CoCo include this device, including the PBJ 2-sp Pak and the Disto Super Controller. To use an ACIA located at a different address, only the device address in the M2W device descriptor need be changed. See the *readme* file on the Wiz delivery disk, there may be a descriptor pre-configured for your device on the disk.

For the Wiz to run the following must be in memory:

WIZ
WIXMOD
S9SCALL
GTKEY
WizAcia
M2W
DD
W
Runb

Wixmod, Wizterm, gtkey and *syscall* are already merged into the file WIZ, which is in the *cmds* directory, and all will load when you type "WIZ". This is done so you can simply run Wiz to get things started, but it is not the best way to do things. Why?, because it is not the best way to use your CoCo memory. This is because *gtkey* and *syscall* are machine language programs, and OS9 likes to keep things separate, it will put them in a block by themselves, and, although they are very small programs, they will together take up 8 k bytes. The same type of thing happens with WizAcia and M2W because they are system modules, WizAcia being a device driver and M2W a device descriptor. WizAcia and M2W are merged into the file M2W.

The best way to do things on a CoCo running OS-9, is to have all of your device descriptors and drivers in your OS9Boot file, and all of your machine language utilities in a file in the *CMDS* directory called SHELL. When you boot up OS-9, the files in the OS9Boot file are put in memory in the "system" space, all packed together so that no memory is wasted. A similar thing happens with the modules in the SHELL file.

On the Wiz disk there is a directory called *MODS*. This directory contains:

Wiz (*wiz wixmod s9scall* and *gtkey* merged)
M2W (WizAcia and M2W merged)

There is also a seperate M2w.Disto.dd

If you want the Wiz to be as efficient as possible, you should:

A: Make a new boot disk with M2W, (WizAcia & M2W), in your OS9 boot file.
B: Make a directory called COM on your DD. Put all of your autolog files in here.

Don't omit step A if you want to use Wiz above 300 baud.

What is DD? DD is a device descriptor that points to your "default device", usually /d0 or /h0. Floppy users have no problems in that DD for floppies is supplied on the OS9 Disk. Hard Disk users must make up a special DD where everything is exactly the same as in H0, except the module name. This is a little tricky to do if you already have the floppy DD in memory, but the fastest technique is just to patch your H0 descriptor name bytes to be DD while it is in memory, save and verify it with the U option, and make a new boot disk with BOTH H0 AND DD.

As for /W it is also supplied with OS9 level II. If you don't have it in memory you can patch your /W1 to be /W, and that will work except that you can have only one Wiz open at a time. The /W window is not really a window at all, but is actually "the next available window" The Wiz immediately closes the screen that you bring it up in and opens "/W".

You do not absolutely have to make a new boot disk, nor a new shell file. This manual will not explain these operations, but later you may want to streamline your Wiz memory usage. When you do, just follow your OS-9 manual instructions for making a new boot disk using cobbler or os9gen, and for making a new shell file. There are, however two procedure files in the *MODS* directory that you can use: *Makewiz* and *Makenewshell.*

Here are the steps for preparing to run Wiz:

Merge stdfonts

Make sure you have DD and W in memory and a /DD/ COM directory

Copy M2W and Wiz from the Wiz disk CMDS dir to Your CMDS dir

Make a new systems disk with M2W in your *bootfile* (iniz M2W after booting)

Type Wiz

There is really nothing special here, W and DD are new features of OS9 level II that you will need as most new S/W will use them. WizAcia/M2W take up very little of your memory.

2.3 The Wiz Screens

The Wiz runs in a graphics window. This does not mean that you must run it from a graphics window, only that you have, at some point, merged *stdfonts*.

The Wiz will uses font c8 01 until you select a new font. It will print the initial prompt: Enter The Autolog File name or< enter> , in whatever window you run it. As soon as you answer this prompt, however, it closes that window and opens a new one.

The status bar is a pseudo window. It is created by first printing a single line at the top of a full sized window, then resizing that window to be one line smaller, leaving the status bar outside the window.

The event window is a one line device window. It is opened with the background and foreground palette windows reversed from the main screen. It is written to in bold face.

The menu and dialogue windows are overlay windows. Menu palettes are the same as the main screen; dialogue is also reversed like the event window.

3.0 OPERATION

Before you run Wiz, you have to merge *stdfonts* into memory. (Wiz defaults to font C8 01) You should also set your monitor type: Composite, Monochrome or RGB.

Wiz is run from the OS-9 command line:

```
OS9:Wiz

                         * OR *

OS9:Wiz ("host name or filename")
```

Note that both the parentheses and quotes are necessary.

```
                         * OR *

OS9:Wiz<CR>host<CR>
```

If you have a hard disk that doesn't disable interrupts, you can type Wiz and hit enter, and then go ahead and type the autolog file name. (In case you haven't figured it out, the autolog file name is most often named after the host, for example: the autolog file used to log on to CIS is named "CIS". This document often refers to the host name, meaning "the name for the autolog file for that host".)

Wiz will take some time to load, depending on the type of disk drives you are using.

If you have not entered a host name by one of the methods above, the first thing you will see is:

```
Enter the Autolog filename; or <CR>
```

At this prompt you can enter a host (autolog) file name or a <CR>. A <CR> will take you to the menu.

While Wiz is loading a notice will appear in a portion of the screen that will eventually be overlaid by the Menu itself, unless you are doing an immediate autolog. DO NOT hit break while this notice is on the screen, because Wiz has not yet loaded all of the modules that it needs to exit back to OS-9 properly. Tapping any key will continue execution of the program when all modules are loaded and ready.

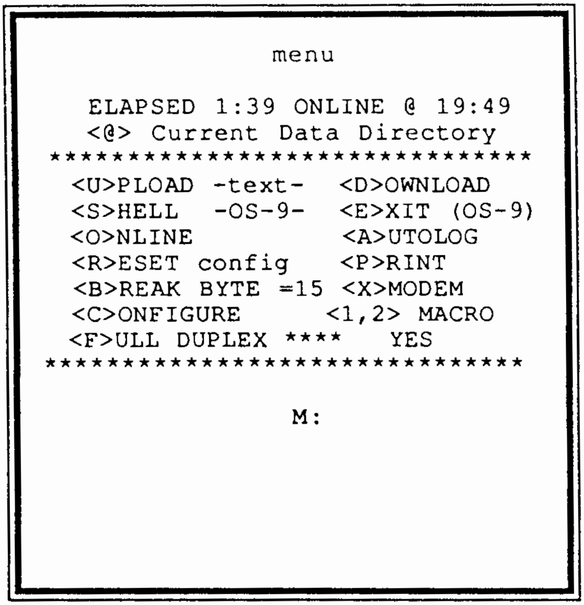
If you have still not started an autolog, the Main menu will appear as depicted on the next page. The menu procedure is waiting for you to type U,D,P,S,E or O etc.

> To EXIT Wiz, tap "E" (or "e") when the menu is on the screen.

If you are operating Wiz in a non-autolog mode, the first thing you should do is tap "C" to go to the Configuration menu. There you can set up the baud rate, stop bits and parity for the Host you want to communicate with. If you are in doubt as to what to set these values to, almost all host computers default to 7 bits, even parity.

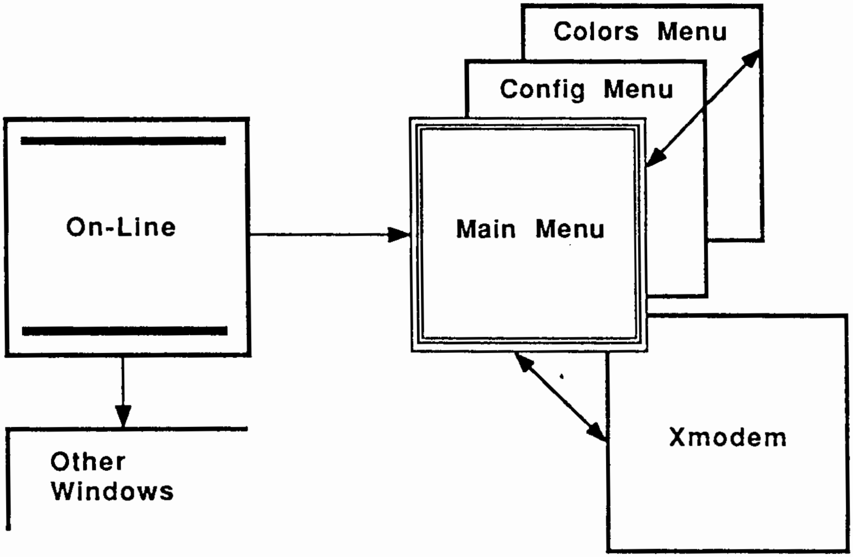
But lets take a look at the Main Menu first:

The Wiz Menu



```
                  menu

    ELAPSED 1:39 ONLINE @ 19:49
    <@> Current Data Directory
*******************************
  <U>PLOAD -text-   <D>OWNLOAD
  <S>HELL   -OS-9-   <E>XIT (OS-9)
  <O>NLINE           <A>UTOLOG
  <R>ESET config    <P>RINT
  <B>REAK BYTE =15 <X>MODEM
  <C>ONFIGURE      <1,2> MACRO
  <F>ULL DUPLEX ****    YES
*******************************

                  M:
```

To select any menu option just tap the key in the braces, for example <C> would mean that you want to go to the Configuration menu. The following is a "roadmap" to the Wiz menus and screens:



3.1 Menu Options

To select a menu option, simply tap the key which you see in brackets, for example: <E>. Upper or lower case is OK. If you tap a letter not on the menu, or hit the break key, the menu will simply rotate (be re-written), on the screen. While you are in the menu, characters will still be received if they come in from the host, so you can go to the menu at any time you wish.

Download and Print are Toggle options. That is if you enter "P" and the print function is not active, it will be activated, if it is already active, entering "P" will cause it to become inactive. Note also that you can select both Print and Download options. (a strange mode but I know someone who does it every day!).

Option"E" EXIT

If you tap E while in menu, Wiz will start its exit process. You will be asked if you want to save the session record. If you answer y or Y, you will be then asked if you want to use the autolog file. What is saved is the time you logged off, the elapsed time, and the host name. By using the autolog file, the next time you use autolog to call that host, this info is re-displayed in the event window. If the host follows suit, (displays "last on" message), you can do a quick visual compare. You can also use this time record to reconcile your useage with any list you may get from the host. You can also use DynaLog if you have Dynacalc to figure out the cost per week etc. You can periodically delete session records, (using a text editor), to keep your autolog times short, or use the Start New Autolog file option during exit. Note that if you "save to another file", it must be an autolog file, but you can "start new autolog file" if you autologged when entering Wiz.

Option "P" Print Text while on-line

This option allows you to print messages as they are received from the host, on your line printer. (often called "print through"). It does not matter if your printer is fast enough to "keep up" with the baud rate, because The Wiz causes the Host to "wait" by sending it an X-OFF character before printing . When you first select this option, the message *Printer* will appear at the top of your screen on the Status Bar. This message will remain as long as the printer is active or until you select another option. If the printer is already active option "P" will deactivate it and remove the "*Printer*" message from the top of your screen.

Option "@" DATA DIRECTORY

You control which data directory that the Wiz uses.The default is whatever directory you are in when you start Wiz. This is indicated by "<@> Current Data Directory" displayed in menu. To change just tap @ and enter the new directory name. Always use /dd or .... in the path to make sure you get back to the "root". If you start a new autolog file on exit, this data directory pathname will be saved. Note that this feature, along with the /DD/COM default for autolog files, means that you can run Wiz from any point in your directory structure. You never have to do CHD for the benefit of Wiz!

Option "D" Download Text

Selecting option "D" configures Wiz to receive text from the Host and record that file on disk. It is a toggle option similar to "P" above. After typing "D", you will notice that a prompt appears:Save Received File as: ?". At this point you may enter the name that you wish to assign to the file that you are about to receive. Note that this may be a complete pathname, for example /d1/text/message.from.joe or just a filename. If you just type a file name it will go in the directory you are @.This type of "download" lets you see, on the screen, everything that is coming from the host. Of course everything must be printable text characters.

Option "U" UPLOAD Text

This option is used to transfer a text file from your computer to a host. When you enter U, you will be prompted for a handshake character, (if you are in FULL duplex), and the file to go. To send a message to cis, you could follow the following procedure:

```
Host Function:
You L
Host To:
You Bill Brady 70126,267 CIS
Subject:
You On The Air with the Wiz
Host 1:
You <ALT-M> to get to menu .
You <U> and follow the prompts......
```

IF you are in the Full Duplex mode,the first prompt is: Handshake, Enter Character or <CR> to use CR. What you do here depends on how the host computer operates. In the example above the host sends you the short "1:" when it's ready for a line. The 1 is the line number. Here you would want to enter a ":" as the handshake character. Other hosts use a ">" or nothing. If nothing, then just tap enter to use a CR as the handshake character. You are actually selecting the character that Wiz will wait to see back from the host after each line it sends, prior to sending the next. If you are in the half duplex mode, the host may not send anything when it's ready for the next line. So in this mode, Wiz simply waits for a pre-set amount of time, (see the configuration menu), before sending the next line.

Remember, most host programs were designed in the belief the the operator, (you), would be typing this text on a keyboard. Many cannot accept the data as fast as Wiz can send without either the delay or a handshake.

If you have any files in your current data directory named snap.n, the U option will first ask you if you want to send these. It will display the first two lines of the file on the screen so you can make sure it's the file you want to send. It will then prompt you for a Y or N answer. See "Using Wiz". If you answer "N" or enter, Wiz will attempt to display your directory contents on the screen for you to use in typing in the filename at the next prompt.

Note that if you are in the HALF duplex mode the Wiz does not see characters echoed back from the host. It has no way of telling if the host received the last line ok, so it simply delays for a while after each line is sent. You can set this delay from the Configuration Menu.

The "X" option XMODEM

Wiz has xmodem built in. If you type X from the menu, Xmodem will prompt you for: <U>pload, <D>ownload, <C>onfigure or <Q>uit. The quit option is there in case you entered xmodem by accident. Configure simply allows you to set the delay in counts. The actual count is relative. Should you get timeouts or partial blocks, increase the count. The Up and Download functions are to send and receive files from the host. You do not have to set any special port configuration before using xmodem, it is done automatically for you.

If you select D U or T options, xmodem will ask you if you want to disable *CoCoBin*. The *CoCoBin* format is always best to use for xmodem file transfers since it includes a special block at the beginning that tells the download xmodem program the attributes to use for the file, its size, and the date last modified. This way the receiver will know how many blocks are coming and put up a status display of % complete. Another benefit is that the xmodem fill bytes will be stripped so that you do not have to process the file through and "filter utilities" before you use it. *CoCoBin* is especially important for sending Font files.

The operation of the xmodem is fairly straight forward. One thing though: if you upload text, line feeds will be inserted after each carriage return found in the file. While xmodem is operating, the event window becomes a status indicator. It will "disappear" as the transaction becomes complete. On download this feature is only possible in the *CoCoBin* mode, and the file must have been uploaded in the *CoCoBin* format.

Note that when xmodem displays "block #" it is talking about the block # contained in the xmodem header. When it displays "blocks", it is giving you a number of blocks sent or received. They are not always the same. Xmodem block numbers are limited to 0-255, while Wiz can receive or send any size. So these numbers will agree up to 255, then the block number will recycle to 0 while blocks keeps on counting. These numbers will also appear incorrect when using the T option, (due to the inserted linefeeds), and *CoCoBin*, (due to the extra block).

The "B" option BREAK

This allows you to redefine your break key to send the character that the host expects for a break. Note that you enter the number in decimal and Wiz displays it in decimal, (anytime you hit the break key). The break key value can be loaded from the autolog file.

Perhaps a small discussion is needed here: When telecommunications were new, each bit was represented as an electrical current flowing in a wire. One level of current represented a "one", the other a "zero", but there was always current flowing. When an operator wanted to signal something special he would "break" the wire, NO current would flow. Today we use an ACIA , and it operates in a similar fashion to the "current loop", always sending either a "one" or a "zero" voltage level. But it can be made to send "nothing", or zero volts. This is called a "true line break" and is equivalent of "breaking the wire". Today we seldom do this, but use a special character to signal the "something special". The Wiz lets you set that character for whatever the host expects.

Note that ALT-BREAK sends true line break from the ACIA.

The break key value will be sent any time that you tap the break key while on-line.

The "S" option — OS9: SHELL

The "S" option takes you back to the shell, in case you want to do a "dir" while on-line. The Shell runs in the dialogue window. You can use the break key here to " break" out of a long operation.

The "R" option — Reset Ontime, host name

The "R" option lets you reset your ontime, like for example you call your cis node and the phone is busy for 10 minutes. It also resets the host to NO FILE, you'll need this if you try to log on to a new host using autolog without exiting Wiz.

The "F" option — Full or Half Duplex

Most host computers automatically echo back each character as you type it. If you are typing, and not seeing anything on your screen, try HALF duplex. If you see two characters for each you type, try FULL. You can also toggle duplex while on-line by using ALT-D.

The "1 or 2" options — MACROS

These options let you type new macros. You have two, which will be sent while on-line, using the function keys. Note that the maximum length for a macro is 80 characters. When you enter this option, the dialogue window comes up.

The "A" option — AUTOLOG

Autolog uses the TANDY Model-100 technique in the autolog file. A brief synopsis is as follows:

? Wait for a character (?P means wait for P)
= Pause for 2 seconds
! Send a specific character
^ Send the next character as control (^M=<CR>)
< Effectively means wait for carrier.
> means "end and go on-line" You MUST have this one.

for example: "`5551212^M<?U`" could mean dial `5551212` wait for carrier then wait for a U.

NOTE

> If you have an autodial modem you do not need the "<". You will generally wait for a message instead, for example "CONNECT".

You don't have to remember all this, just use NuHost, then Start a new autolog file on exit from Wiz.

The "C" option: Configure

The C will bring up a port configuration rotating menu. See section below for a description of the configuration menu, and its sub-menu "colors".

The "O" option: ON-LINE

It takes you "on-line", meaning that anything you type goes to the host, and whatever you see on your screen has come from the host. If you are in the full duplex mode, & the host or your modem is echoing your characters, you will see them on your screen "on the way back". If the host is not echoing characters, and you are in HALF duplex, Wiz will put them on the screen anyway, or if you are in FULL, you won't see anything.

When you go on-line, the status bar or line appears at the top of your screen. The first thing on this bar is your elapsed time as hours : minutes. Next you will see an abbreviated statement of your configuration. First is your Baud rate, then ASCII word length, number of stop bits, parity and whether you are using Full or Half duplex. For example:

Time Logging 0 : 10

```
0 : 10 1200-8-ONE-NONE-F Hold....
```

Wiz displays your elapsed time, and the time that you started, in the menu. This information is computed every time you enter menu. So to get a fresh time, get a fresh menu.

ACIA Configuration Speed, Bits, Parity and Duplex

```
0 : 10 1200-8-ONE-NONE-F Hold....
```

The Wiz is using 1200 baud, 8-bit words, one stop-bit, no parity, and are in full duplex mode. Note that the time on the status bar is static, but will be updated along with the rest of the bar.

Help Reminder HELP!

```
0 : 10 1200-8-ONE-NONE-F Hold....
```

The status bar has a message to remind you that ALT-H will display several help screens as a reminder of special key use while on-line. Your *Printer* and download file messages from the menu show up on the bar last, again as a reminder.

Printer Active *Print*

```
help *Print* The Wiz
```

Reminds you that the printer is active.

Download File TODAYS MESSAGES

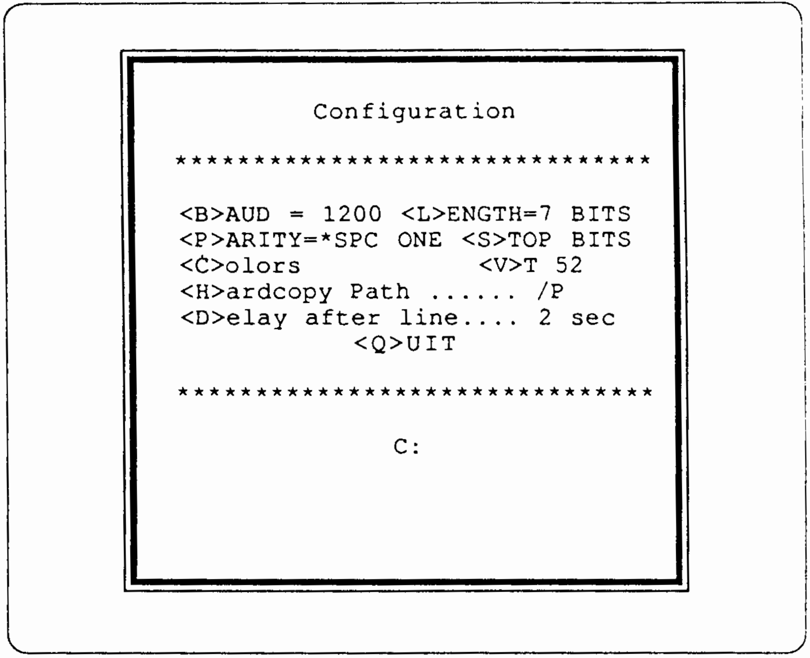
```
help *Print* Messages
```

Reminds you that you are downloading to the file "messages".

3.1.1 Configuration menu

Configuration is another rotating menu. If you autolog, you may never use it, since autolog calls configure every time it runs, but takes a "short cut" past the menu. Configure is intuitave, just keep tapping keys until you see the configuration you want.

Configuration Menu:



```
          Configuration

 ******************************

 <B>AUD = 1200 <L>ENGTH=7 BITS
 <P>ARITY=*SPC ONE <S>TOP BITS
 <C>olors           <V>T 52
 <H>ardcopy Path ...... /P
 <D>elay after line.... 2 sec
           <Q>UIT

 ******************************

               C:
```

The Hardcopy path option is there for people that have more than one printer, one hooked to the serial port, and one hooked to a parallel port. Often these people name one /P and the other /P1. You can select which path is used by Wiz for retro-print and the print through operations.

The delay after line option is for the half-duplex mode of the <U>pload operation. See that option description under the main menu options above. The delay can be set for from 0-99 seconds. The delay is accomplished via an OS9 sleep call.

Note that XMODEM uses configuration to reset the port for 8 bit binary data, but does so automatically, bypassing the configuration menu. You DO NOT have to use the configuration menu to switch to 8 bits no parity to do xmodem. Xmodem also sets the port in the binary mode. (Turns off the text filter.)

Note that all items in the configuration menu can come from the autolog file, and will be saved to the autolog file if you select "Start new Autolog file" upon exit. In the autolog file all configuration menu entries are prefaced with a #.

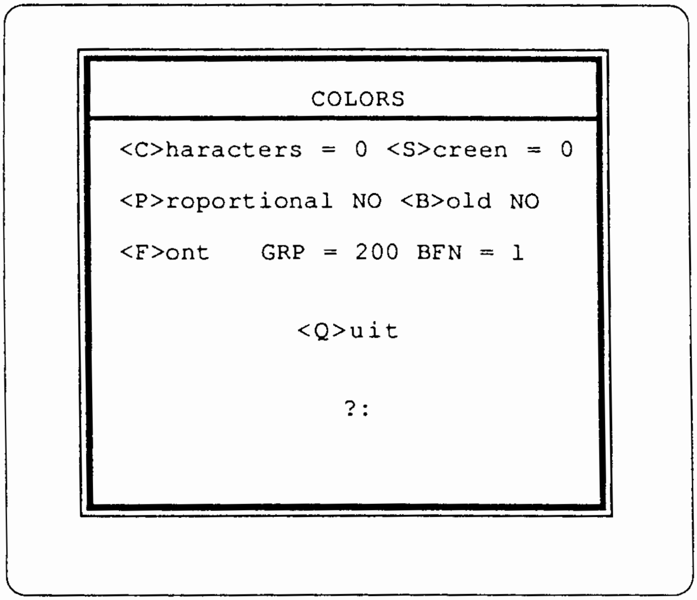
The "V" option VT52

In this mode, the CoCo acts just like the VT52 which is a rather "dumb" terminal. You will loose many other Wiz capabilities. (The "real" VT52 doesn't have them). Note that the menu Option for VT 52 doesn't actually put you in the VT52 mode, you must do that while on-line. It will, however, set the mode in your autolog file.

3.1.2 Colors Menu

Some people are going to want black on buff, others white on blue. One of the problems with the CoCo 3 and OS9 Windows is that there are so many different combinations of colors available. A traditional menu for this kind of thing would be useless. Who can remember what color number from 0 to 63 is what color. I don't think there are even names for that many colors. The Wiz provides you with a menu that allows you to rotate through all of the colors, all the while seeing both the effect, and the color number. This is the Colors Menu:

Colors Menu



```
                       COLORS
<C>haracters = 0 <S>creen = 0

<P>roportional NO <B>old NO

<F>ont   GRP = 200 BFN = 1


              <Q>uit


                ?:
```

If you tap C, the number 0 next to the <C>haracters will change to 1. Depending on the type of monitor you have you may see the color of the characters change. Tapping S has a similar effect on the screen or background color. Both C and S can be rotated through 0-63 for a total of 64 colors and 4096 color combinations.

WARNING

For certain combinations you will "go blind", that is you will not be able to see the characters on your screen. Of course, this happens when the characters are the same color as the screen. If you have a monochrome monitor, there are quite a few combinations where this occurs. Just keep tapping C or S until you get back to where you can see things. The colors menu helps you by beeping for each change, so even if you can't see the change, you hear it.

When you find a color combination that you want to keep, note the number for C and S, and put these numbers in your autolog file:

```
\S48
\C40
```

or start a new autolog file when you exit Wiz.

You can also set your characters to be boldface or proportional via the colors menu. Boldface is just what it says, but proportional is a little more complicated because there is also a STD micro-spaced font. The proportional option makes any font LOOK proportional and you will get more characters on a line, but if you want true proportional, use a proportional font.

Notice that you can have both proportional and bold at the same time. Normal text is actually the absence of bold or proportional, and is not a menu option. You can, however set normal from the autolog file. Use it to make sure that you are not in bold or proportional when you autolog after setting bold or proportional. Here are what these functions look like in the autolog file:

```
\B bold
\P proportional
\N normal
```

OS9 does not provide applications programs with the codes for fonts actually installed in memory. To find new fonts the Wiz must search memory for all possible fonts, all 65535 of them. This takes time, and if you select the F option Wiz will warn you. Font searches take minutes.

The colors menu selections are expressed in the autolog file prefaced by a \. Note that this is a backslash, or CTRL slash. As with the other menus, your current configuration will be saved if you select the "start new autolog file" option upon exit from Wiz. Also note that the autolog file MUST have a either ## or \\ at the end of the configuration information portion.

3.2 On-line Operations

Tap "O" or "o" from the menu to go on-line:

When you are on-line with the Wiz just about every key does something. The ALT key and the CTRL key both have special meaning . The ALT key is used to communicate directly with the Wiz without using a menu. In the same manner the CTRL key is used with the Host software. Remember- ALT is for special Wiz functions, the CTRL key is for special Host functions.

The F1 and F2 keys are used also. They send the macros.

The ESC/ BREAK key can be defined by you to send anything that will fit into a byte. Generally you will set this value in your autolog file, :o whatever the Host requires for "Output OFF". Often this is a control-O - decimal 15.

Control Codes and the BREAK key ^F

Wiz will send control codes from the keyboard. Under OS9 the break key is an error 2, but Wiz "Filters" the error and sends the CTRL/C (or other code you select) anyway. To redefine the control code sent by the break key choose the "B" option from the menu. Without using the break key, any control code can be sent directly from the keyboard by holding down the CTRL key and tapping the appropriate letter, for example, a ^C is sent when you hold down CTRL and tap "C".

You cannot send control codes while in the conference mode, (except the break key). If you are in the conference mode and want to send a control character first type ALT-C then the control byte, then ALT-C to return to conference mode.

It is safe to hit the break key at any time in the Wiz. If it is enabled it will usually abort whatever it is you are doing. If you are at a point where hitting break would not accomplish anything, nothing will happen. The same is also true of Shift Break and CTRL Break.

3.2.1 Buffer Operation

Wiz continuously saves everything in a rotating buffer that always holds the last 2048 characters.

Zero <ALT-Z>

Holding down the ALT key while you tap Z flushes the buffer. It is then re-set to all spaces.

RETRO: Screen <ALT-^> (up arrow)

This will display the buffer on your screen. The pause function is enabled during replay, so when the screen is full, things will stop until you hit a key.

RETRO: Print <ALT-P>

If you hold down the ALT key and tap P, the buffer is sent to the printer. (/P or other hardcopy path as selected from the config or in the autolog file). You cannot retro-print, however, if you have enabled the "P" option from the main menu.

Snap <ALT-S>

Holding down the ALT key while you tap S results in the buffer being saved to a file. The file is generated automatically to the current data directory and without your taking any further action. The file will be named snap.number. For example, the first snap "snap.1" the second "snap.2", etc. When you do a snap, the file name will appear in the event window. It will stay there until replaced with something else.

3.2.2 Other ALT key Functions

HELP <ALT-H>

Hold down ALT and tap H for on-line help. A help screen will appear in the overlay normally used for the menu. There is more than one screen. Tap any key to continue to the end of the help screens.

FULL Duplex Toggle <ALT-F>

Holding down the ALT key while you tap F will toggle you back and forth between full and half duplex. What this really means is that you don't have to go to the menu to change this function. ALT-F will also update your status bar.

Wait Mode or "state" <ALT-W>

The wait mode does two things: it closes the serial path, thus freeing the ACIA, and then the Wiz executes a sleep indefinite, (sleep 0), system call. The Wiz can later be awakened via the shift break key. One thing to remember is that, although the Wiz is asleep, the OS9 shell serving it is not. Anything you type on the keyboard will show up on the screen when Wiz awakes and starts taking characters from the shell again. The wait mode is there for use with the level 2 windows. The useage is to hit ALT-W and then the clear key to go to another window. In this other window you could, for example, run a kermit.

Modem Clear <ALT-XX>

If your modem responds to the sequence +++ ATZ by disconnecting itself from the phone line, you"ll find this feature handy when taking your bye from a host that you have been connected to via a networking service such as telenet or tymnet. Note that you must hold the ALT key and tap x twice. This is so you won't inadvertently disconnect yourself by hitting ALT-x when you meant to hit CTRL-x.

Time? <ALT-T>

Refreshes the Status Bar.

Conference <ALT-C>

ALT-C puts the Wiz in the Conference mode. See section 3.4. When you tap ALT-C a ">" will appear at the left hand side of the event window. Anything you type will go into that space, but will not be actually be sent to the host until you tap <enter>. ALT-C will also take you out of the conference mode.

Graphics Mode <ALT-G>

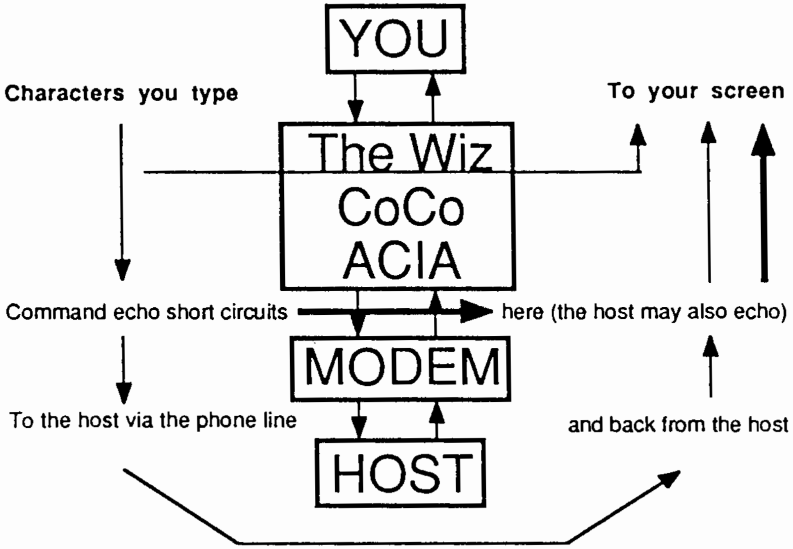
Opens a full sized graphics window. Allows full OS-9 level 2 graphics to be received & displayed. Can be used when one CoCo is acting as a terminal to another. Any alt key removes you from this mode.

VT52 Mode <ALT-V>

Places Wiz in the VT-52 Emulation mode. Any alt key removes you from this mode.

HALF or FULL duplex can be confusing. Here is a picture that shows how it works:

HALF-DUPLEX MODE


YOU
Characters you type
To your screen
The Wiz
CoCo
ACIA
Command echo short circuits
here (the host may also echo)
MODEM
To the host via the phone line
and back from the host
HOST

The light arrow ⟶ just under The Wiz shows where the Wiz HALF duplex mode makes the short circuit.

The Heavy arrow ➡ shows where the modem will make the short circuit if you have it set up for the command mode echo. The arrow at the bottom shows the host echo.

When you see double characters, it is because HALF duplex is working and either the modem or the host is echoing. You usually wont see triple, because the modem does not echo if it is actually connected to the host.

There may be a delay when the echo comes from the host. So many people will set their host default to no echo, and use a local, (HALF duplex mode), echo. This makes for less annoying typing and editing, but what you see on your screen may not be exactly what the host has recorded.

3.3 Using Wiz

The first step is to make a directory on your default device (H0 or D0). You must use "COM". In that directory you will make your autolog files. You can use NuHost, or any text editor. Your first three lines in an autolog file may look something like this:

```
ATDT3527500^M?R?C?T==^C?U?:70126,267^M?P?:password^M>
#b1#11#p5##
Host : cis Time off : 86/12/01 20:06:50 Elapsed : 01
```

> Note the third line: "Host..... if you are making up an autolog file from scratch, you will need this "seed" entry. If you don't have it, you will get an error.

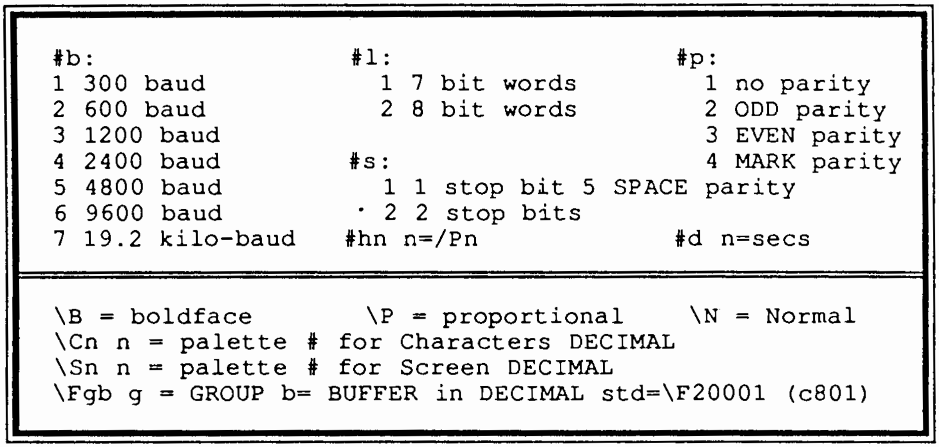
This setup will cause a AT command set compatible modem to :

```
dial the number 3527500,

then wait for an R, (as RING RESPONSE)

and a T, (as in CONNECT),

then wait four seconds (==),

send a control C,

wait for U and :, (as in User:),

send 70126,267,

wait for P and :, (as in Password:),

send password, then exit.
```

Warning, you must have the > to terminate the autolog sequence, even if there is no actual autolog sequence in the file.

```
The #b1 & etc is used by config to set up your port:

#b1 means baud rate 1 which is 300 baud.
#11 is data length 1 etc.
```

Here are the settings and their meanings:



```
#b:                   #l:                   #p:
1 300 baud              1 7 bit words         1 no parity
2 600 baud              2 8 bit words         2 ODD parity
3 1200 baud                                   3 EVEN parity
4 2400 baud           #s:                     4 MARK parity
5 4800 baud             1 1 stop bit 5 SPACE parity
6 9600 baud             2 2 stop bits
7 19.2 kilo-baud      #hn n=/Pn             #d n=secs
```

```
\B = boldface       \P = proportional     \N = Normal
\Cn n = palette # for Characters DECIMAL
\Sn n = palette # for Screen DECIMAL
\Fgb g = GROUP b= BUFFER in DECIMAL std=\F20001 (c801)
```

Note that either ## or \\ ("\" backslash NOT slash "/") terminates the configuration process.

Your setup can either be on one line:

```
#b1#l1#s1#p5\B\s40\c48##
```

or on separate lines:

```
#b1
#l1
#s1
#p5
\b
\s40
\c48
\\
```

Upper or lower case is allowed numbers are decimal

NUHOST

Some Utility programs are furnished with the Wiz, please read the "readme" file on the delivery disk. NuHost will help you to set up your autolog file for each new host or host configuration. Dynalog helps you to convert the session entries in your autolog file into a format that can be read by Dynacalc.

Nuhost will not allow you to set any of the Wiz level 2 functions such as fonts and colors. But you can use Nuhost to create a starting autolog file, load it into the wiz by doing a "dummy" autolog with it, (disconnect your modem, and hit break when the autolog encounters the first wait), then exiting the Wiz; selecting the Start new autolog file option. Wiz will then append font, color etc, to the new autolog file.

Kermit

Kermit is a file transfer protocol like xmodem. In many ways it is more powerful, and is becoming widespread in its availability. It is sometimes available on large institutional computers, (like your company's computer), when xmodem is not.

The Wiz does not do Kermit. It is both unnecessary and undesirable. To be efficient, Kermit programs must be implemented in assembly code or written in a language such as C. Many current versions of Kermit can be very inefficient. Its use is discouraged on some Packet Switched networks. Users do not expect the same data transfer rate with Kermit as you will get with xmodem. This situation will change in the future as new "sliding window" techniques are evolved.

Kermit is supplied with the Wiz as a free program. Kermit was designed and implemented by Columbia University and is installed on many host computers.

To use Kermit, first use the Wiz to log on to the host computer, then put the Wiz in the wait state. (ALT-W) Then hit the clear key to get to another window, and run the Kermit in that window specifying the T2 path.There will be no conflict with the ACIA as the Wiz closes its path via WizAcia/M2W before going to sleep, and reopens it when you wake it up. You cannot use the Kermit with M2W. It was designed to use ACIAPAK/T2, the standard Tandy driver .The actual operation of Kermit is beyond the scope of this document.

WARNING YOU CANNOT INIZ BOTH T2 AND M2W AT THE SAME TIME, AS BOTH DRIVERS WILL PLACE THEIR VECTORS IN THE INTERRUPT POLLING TABLE. If you iniz, deiniz.

If you use Kermit, keep your eyes open for more efficient implementations that are sure to become available in the future. "Kermiting" is a special brand of telecomputing in its own right.

Autologging:

Here you have some choices. Assuming that you have created an autolog file by the name of "cis" in your COM directory, type:

wiz ("cis")

Note that both the (and the " are required

OR

If you have a hard disk with type-ahead type:

wiz<cr>cis<cr> (this is the easiest)

OR

Type:

wiz

And when the prompt comes up, enter <cis>.

Any of the three above will kick off the autolog sequence. The second method is really the same as the third, except you don't wait for the prompt before entering cis. If you have floppies which kill interrupts, this won't work because part of your <cis> keyin will likely get lost.

note

When Wiz is autologging, if it is waiting for a character, it will continue without actually receiving the character if you tap enter. This is especially useful when the the first message or so gets garbled. Also, sometimes you can start your autolog all over again, without disconnecting: hit <@>, and "tap-enter" your way up to the point in the sequence where autolog and the host "get in sync".

3.3.1 HOW to use the RETRO features

Lets say you are fond of scrolling through a host message base and reading messages. You also like to respond to selected messages, but not while you are on-line. You can use the SNAP feature to save the selected messages to disk as you go along, and respond to each later. One way is to just use <ALT-S> whenever the message is on your screen. Of course, this may get you some extra text from the previous message in the snap file. So you can first ZERO the buffer, then re-read the message, then SNAP it. (you could also Retro-Print it). If you are in doubt about the actual contents of the buffer, hit ALT-^, (up arrow), and it will be displayed on your screen.

3.3.2 UPLOADING messages

After you have composed your replies to the snap messages, you will want to send them to the host. You can do this by logging back on and using the <U> option from the menu for each file. The U option sends text from a file with a very simple protocol, see technical discussion below.

3.3.3 Saving the WHOLE SESSION

You can save the whole session to either the disk or the printer by simply turning on either the <D> or the <P> option from the menu. The <D> option is good if you have a hard disk, the <P> would be good if you use low baud rates and have a fast printer. The best technique of all is to use the D option but save the incoming text to a ramdisk file.

What you do is: First go to the menu and type <1>. The current macro #1 will be displayed and you will be asked if you want to replace it. Type <Y>. A question mark will come up on the left hand of your screen. At this point, type your message. It must fit on the screen, or at most wrap around just to the question mark. When you are done, hit <ENTER>. You have two macros, so type 2 to do the second. When you are on-line tapping F1 or F2 will send the text part of the macro, but NO CR IS GENERATED by Wiz. At this point just hit <ENTER> to finish off the macro. In the conference mode you may want to send your messages to a specific person, say his name is Greg. Try this: make your Macro 1 look like this; "-> Greg ", then on-line, compose your message in the event window, but before sending tap F1, THEN <cr>. What will go out will be: "-> Greg message"

Both macros may be loaded from your autolog file ;

```
#M1 This is Macro 1
#M2 This is Macro 2
```

Note the space between M1 and This, it is required.

Conferencing

Conferencing is not only enjoyable, but can be a way for you to get valuable information from other people. But you must be able to generate clear concise messages and insert them into the conversation at the proper time. With most terminals and terminal programs, conferencing can be very trying because other 'people's messages tend to appear right in the middle of the line that you are carefully composing on your screen. The Wiz co mode does away with this problem by giving you a "private" window to type in. This happens in the event window at the bottom of your screen.

There are some special rules for the co mode. The main one is that you cannot use the CTRL keys in the normal manner. For example, CTRL-Z will have no effect on the host computer, it does not go out on the line. CTRL-X, however will work just as it does under OS9. It will clear event window, and reset the cursor at the left hand edge.

While conferencing it is nice to see your messages only once. If you are connected to the host in full duplex you may see everything twice, once when you hit enter, and again at the same time everyone else sees it. Try setting your host mode to no echo. The best result is when you only see your messages, (on the main screen), at the same time everyone else does. A good use for your default macros, (the ones that you put into your autolog file), is to set one to the no echo command string for that host, and the other to the command string that sets the "nickname" or "handle" that you will use on that host. When you enter the co, just tap f1, <enter>, f2, <enter>.

Different conferences have different on-line etiquette, please follow it. One thing that is almost universally courteous: when entering a co, type a real quick Hi!, then wait and watch a while before typing anything else. And never exit without telling everyone that you are leaving, and giving them a chance to respond with a "bye" or "wait a minute, I have a question for you...".

Also, be careful & courteous in what you say. Conferences are often recorded. The author has gotten himself in hot water more than once for becoming too "chatty". Remember, once you hit enter, it"s too late to recall the message!

3.5 ABOUT WINDOWS

Under OS-9 level 2 you can have many types of windows. Wiz requires that *stdfont* #1, (c8 01), be loaded. The following procedure file shows one way of accomplishing that and more:

Procedure *makegw*

```
merge stdfonts                        loads fonts into memory
montype r                             sets CoCo to rgb mode
display 1b 24                         close device window
display 1b 20 5 0 0 50 18 1 0 0       open graphics device window
display 1b 31 1 0                     new window is in control
display 1b 3a c8 01                   select font c8 01
display 1b 21 </w >/w                run a shell out of this window
```

You do not have to use *stdfonts*, you may use any font you like once you are in Wiz, but it must be there when the Wiz starts up..

You may also want to go back to a text only window; here is a procedure for doing that. Please note that the *montype* call here should be set for the type that you actually have, and further that you may not need to have the *montype* call in your *makegw* and make80 files, as it is better to put it in your startup file anyway.

Procedure make80

```
display 1b 24
montype m
display 1b 20 2 0 0 50 18 2 0 0 1b 32 2 0 >/W
```

4.0 TECHNICAL DISCUSSION

Wiz was written using Basic09 and assembly language on a Tandy Color Computer 3 under OS-9.Wiz uses two OS-9 utilities, s9scall and gtkey. Wiz also has it's own device driver for the ACIA in the rs-232 pak called WizAcia. M2W uses the base address of FF68., M2W.Disto FF54. WizAcia is interrupt driven on receive and uses the FIRQ generated by the ACIA via the CART line, which is changed to an IRQ by the GIME . Once initialized, WizAcia runs all the time, collecting bytes coming in from the host.

A word about speed. First line speed is solely dependent on the time allocated to interrupt processing in your hardware and software environment. WizAcia's operation is independent of the Wiz. WizAcia handles the first level of protocol with the host, it talks to the host, and the Wiz plays "catch-up". OS9 itself takes some time away from the Wiz, and, of course, OS9 is multi-tasking, and any other tasks will also share the available time with other tasks.

WizAcia sends X-OFF to the host at critical points depending on its current x-off mode. Usually it sends an x-off when its buffer is near full. (WizAcia has a 256 char buffer). Wiz can also request that WizAcia send an X-OFF via a setstat call. WizAcia never responds to x-off's should one come in. No "S" type driver driver should both send AND respond to x-off, since it has no way of detecting its own x-off if it should be accidentally echoed back to it. (for T type drivers this is OK, since there is a human operator "out there").

WizAcia does not use interrupts or a buffer for writes. (sending). Nor does it use signals. This results in a smaller driver and reduced memory requirements at run time, but also has a side benefit of reducing interrupt handler overhead. When WizAcia gets an interrupt, it doesn't waste time finding out whether it was send or receive or sending signals. All this makes WizAcia very fast. The result is that, on a CoCo 3, WizAcia will run at 19.2 k baud, and is TOTALLY reliable with Wiz up to 4800. Above 4800, reliability will depend on factors like the interrupt environment in a particular machine, how the host handles X-OFF's etc. Note that, if you run another program, in another window for example, that disables interrupts, WizAcia will experience ACIA overruns. Like they say in the NFL, "you can't run without the ball", WizAcia can't run without the interrupts.

WizAcia System Calls:

Getstat	
130	returns ACIA status register in B
Setstat	
28	ComSt call baud & type byte from descriptor used to set new port config.
130	enables driver to send x-off after cr ($0d) received from host
131	disables " "
132	enables driver to send x-off when buffer is near full - default
133	disables " "
134	request from Wiz: driver set acia to send true line break
135	set text mode filter - default
136	set binary mode - xmodem and graphics mode
140	driver enter x-off request in queque, (send x-off if not already sent)
141	driver enter x-on request in queque, (send x-on if not already sent)
142	driver enter VT52 mode, (cancelled by 135 or 136)

More than one disk path may be open at the same time, one by the <D> option, another by autolog, xmodem or during a SNAP. If you are doing a <D> option the filename is displayed on the top online screen line, or in the menu. When you use snap, the current snap filename is displayed.

In the FULL duplex mode, the <U>pload option sends a line then waits for a CR from the host, if the CR is not received within about ten seconds, the next line will be sent anyway. In HALF duplex it sends lines with a delay after each line. This delay is accomplished via an OS9 sleep call.

XMODEM uses a timeout variable in FOR-NEXT loops. This variable is adjusted during receive by making its variable shorter if a full block comes in before timeout, or longer if a partial block is received. You can set the default count with the <C> option. If a timeout expires, meaning that a FULL block has NOT been received in the period, xmodem checks to see if a single character is in the buffer. If so, it interprets it as a CONTROL. If there is more than one, that is an error. (partial block). Xmodem does not check for block sequence errors, only blocks with errors.

XMODEM cancels (aborts), transmission by sending a string of CAN's, whether or not the host responds to this depends on the host. It responds to the same if sent from the the host. There is no real standard for aborting xmodem transmissions.

The autolog feature of Wiz has not been made "smarter" for two reasons: In my experience, no autolog program is smart "enough", they all fall down in some circumstance. The second reason is because the really good smart autologgers are very S-L-O-W, even on very powerful computers. The simple "watch and tap and restart" technique possible with Wiz works with the minimum of hassle

Why Basic09? Well, originally, it was written in Basic09 just to show that it could be done; to demonstrate the speed and power of the language on a color computer. There is a "C" version of Wiz, but it is not as powerful as Wiz and probably never will be. As it turns out, with really large applications such as Wiz, the Basic09 version is actually smaller at run time, even when you count runb. Basic09 never manipulates the incoming data to the screen, or to disk. It sets up a buffer which OS-9 writes to and reads from. Basic09 also shines in string handling and parameter passing. Basic09 is powerful indeed. Now that Tandy has wisely decided to distribute Basic09 with OS-9 level 2, programs written in Basic09 are natural extensions of the system.

When you are in the VT52 mode, certain keys on you keyboard do not send the same values that are sent in the normal on-line mode. This is how Wiz simulates a VT52, by remapping the values of certain keys. (Wiz also responds to different incoming values for positioning the cursor on the screen). However, the CoCo does not have certain keys that the VT52 has, and it has no numeric keypad. Actually what changes in the VT52 mode is how you use the ALT key.

Only ALT-M and ALT-V stay the same in the VT52 mode. ALT-V from the main screen turns VT52 on, and ALT-V from the VT52 screen turns it off. (ALT-V is a toggle). ALT-M will also take you out of VT52 mode, just in case you forget about the toggle nature of ALT-V. The following Table illustrates the VT52 codes:

KeyPress	Sends	VT52 CODE
ALT-1	ESC P	PF1
ALT-2	ESC Q	PF2
ALT-3	ESC R	PF3
ALT-4	ESC S	PF4
ALT UP-ARROW	ESC A	CUR UP
ALT DOWN -ARROW	ESC B	CUR DOWN
ALT RIGHT-ARROW	ESC C	CUR LEFT
ALT LEFT-ARROW	ESC D	CUR RIGHT
F1	ESC P	PF1
F2	ESC Q	PF2
ALT-ESC /BREAK	$7F	DEL

Note that the F1 and F2 keys are the same as ALT-1 and ALT-2. This is the way they are generated by the CoCo keyboard. To Wiz, F1 is indistinguishable from ALT-1. Also, you may find that you have no need for the ALT-ARROWS. You may find that the normal (NON ALT) arrows work just fine, or you may need to use only one or two ALT ARROWS. This is because many VT-52 emulating editors editors generate the VT52 codes for screen formatting, but do not accept them back from the terminal.

In the VT52 mode, you will usually want to define the ESC/BREAK key to be a 27, which is an esc. This will allow you to enter WILDCARD escape sequences not emulated by Wiz. Note that ALT-ESC is a DEL, which on many editors, is a backspace-del-backspace.

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